5

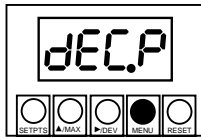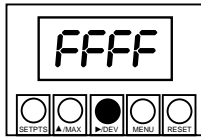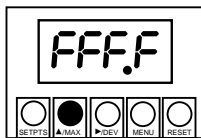### To Set the Decimal Point

1. If it's not already shown, press **MENU** until the unit displays dEC.P
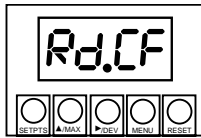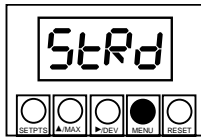
   dEC.P

2. Press ▶/**DEV** to show the current decimal point location.

   FFFF

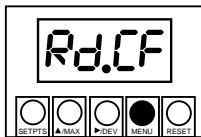3. Press ▲/**MAX** to move the decimal point to the desired location. The choices are FFFF or FFF.F.

   FFF.F

4. Press **MENU** to store the value.
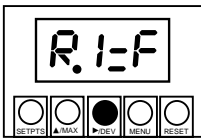
   StRd   Rd.CF

5. Press **RESET** twice to display the current temperature.

To Select Temperature Unit
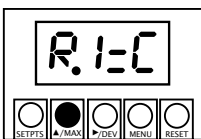**(Fahrenheit or Celsius):**

1. Press MENU until the display shows Rd.CF

   Rd.CF

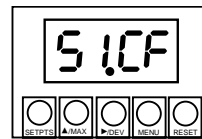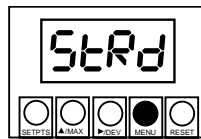2. Press ▶/**DEV** to display the current temperature unit.

   R.1=F

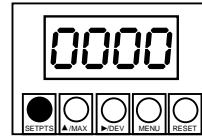3. Press ▲/**MAX** to select between °F and °C.

   R.1=C

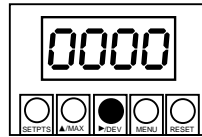## 6

4. Press MENU to store the value.

   StRd   S1.CF

5. Press RESET twice to display the current temperature.
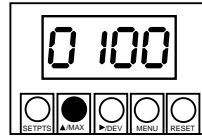
To Enter Setpoints:

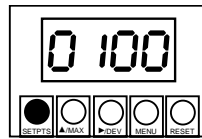1. Press SETPTS to display the current setpoint. The leftmost digit will flash.

   0000

2. Press ▶/DEV to select the digit you want to change.

   0000

3. Press ▲/MAX to increase the value of the flashing digit.
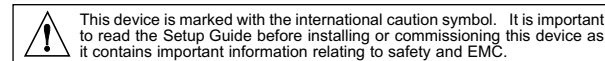
   0 100

4. Press SETPTS to store the setpoint.

   0 100

5. Repeat steps 1 through 4 to enter the next setpoint.

WARNING: These products are not designed for use in, and should not be used for, patient connected applications.

⚠ This device is marked with the international caution symbol. It is important to read the Setup Guide before installing or commissioning this device as it contains important information relating to safety and EMC.

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct but OMEGA Engineering, Inc. accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

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MQS3732/1205

C E   MADE IN USA

DP25-TC and DP25B-TC
PROGRAMMABLE DIGITAL THERMOCOUPLE CONTROLLER

omega.com®
ΩΕOMEGA®

Using This Quick Start Manual

Use this Quick Start Manual with your controller to make changes to the thermocouple type, decimal point, units, and to change the setpoints.

Features with [NEW] are for the "B" version which has three-color programmable "Big" LED display - All segment characters shown are for the "B" version.

[Note] For detailed instructions, refer to the appropriate section in the Operator's Manual.

Before You Begin

In addition to the meter and the related parts, you will need the following items to set up your meter:

- ac power, as listed on meter's ID/Power Label
- Thermocouple
- 1/8" flat blade screwdriver

Safety Consideration

⚠ **This device is marked with the international Caution symbol.**

The instrument is a panel mount device protected in accordance with EN61010-1 (Safety requirements for electrical equipment for measurement, control, and laboratory standard). Remember that the unit has no power-on switch. Building installation should include a switch or circuit-breaker that must be compliant to IEC 947-1 and 947-3.

SAFETY:

- Do not exceed voltage rating on the label located on the top of the instrument housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case for safety reasons.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.

EMC:

- Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.

Mount the Unit

1. Cut a panel opening using the dimensions shown to the right.
2. Position the unit in the opening, making sure the front bezel is flush with the panel.
3. Install retaining clip on the meter and tighten against the panel.

PANEL THICKNESS
6,4 (.25) MAX
0,8 (.03) MIN

1,5
R(.06)
4 PLCS
45,00 + 0,61/-0,00
(1.772 + .024/-.000)

92,00 + 0,81/-0,00
(3.622 + .032/-.000)

NOTE: Dimensions in Millimeters (Inches)

Wiring

⚠ **Warning: Do not connect AC power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!**

1. Remove the panel at the back of the unit.
2. Locate the TB1 connector.
3. Insert the correct wire in each terminal as shown in the following figure and tighten the lockdown screws.
4. Tug gently on the wires to verify the connections.

External Fuse Required:

Time-delay, UL 248-14 listed
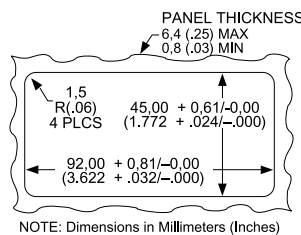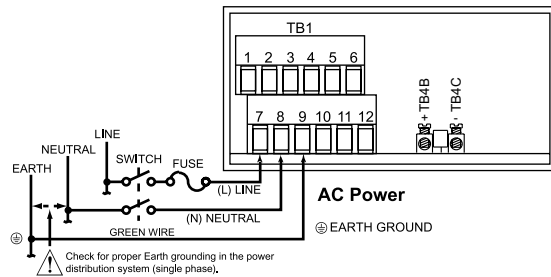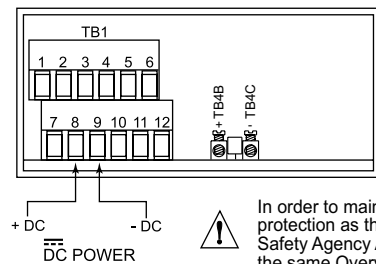175 mA (115 Vac line)
80 mA (230 Vac line)

Time-lag, IEC 127-3 recognized
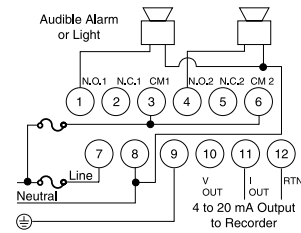125 mA (115 Vac line)
63 mA (230 Vac line)

AC Powered Unit Connections

In order to maintain the same degree of protection as the AC units, always use a Safety Agency Approval DC source with the same Overvoltage Category and Pollution Degree.

DC Powered Unit Connections

Wiring the Controller

Typical Wiring of TB1

Thermocouple Wire Connection

1. Connect positive (+) lead of thermocouple.
2. Connect negative (-) lead of thermocouple.

Note: The negative lead is red.

Example hook up for AC Load

Alarm 1 (Setpoint) Hook-up

1. Connect a jumper from ac Line to Relay 1 Common (Terminal 3).
2. Connect Relay 1 Normally Open (Terminal 1) to External Alarm ac Line.
3. Connect External Alarm to ac Neutral.

Alarm 2 (Setpoint) Hook up

1. Connect a jumper from ac Line to Relay 2 Common (Terminal 6).
2. Connect Relay 2 Normally Open (Terminal 4) to External Alarm ac Line.
3. Connect External Alarm to ac Neutral.

Analog Output Wiring for 4 - 20 mA Current

1. Connect Positive Lead to Terminal 11.
2. Connect Negative Lead to Terminal 12.

For 0 -10 Voltage

1. Connect Positive Lead to Terminal 10.
2. Connect Negative Lead to Terminal 12.

Using the Configuration Menu

To configure the meter, you use the buttons on the front panel.

To:	Take This Action:
Display the Configuration Menu	Press the **MENU** button. The first function on the menu, INPt, displays.
Select a submenu function	1. Press **MENU** until the function you want is shown. 2. Press ▶/**DEV**. The information you can change flashes.
Select a value for that submenu function	1. Press ▲/**MAX** to display the option you want. 2. Press **MENU** to store it. StRd quickly flashes, indicating that the selection has been stored in memory. Then the next menu function displays.
Go back to previous menu function	Press **RESET** once.
Exit the Configuration Menu	Press **RESET** twice. The unit displays RSt as it reinitializes. When a numeric value displays, the unit is in run mode. (Optionally, you can press **MENU** to move through all the menu functions until the unit reinitializes.)

MENU	SUBMENU	▶/DEV		DESCRIPTION
INPt	J.tC	K.tC*	dJ.tC, t.tC	Input
dEC.P	FFFF,	FFF.F		Decimal Point
Rd.CF	R.1-C,	R.1-F*		Reading Configuration
COLR	GRN,	REd,	AMbR	Display Color
S1.CF	S.1-E*,	S.1-b		Setpoint 1 Configuration
	S.2-U*,	S.2-L		
S2.CF	S.1-E*,	S.1-b		Setpoint 2 Configuration
	S.2-U*,	S.2-L		
S1.db	0003*			Setpoint 1, Deadband
S2.db	0003*			Setpoint 2, Deadband
Ot.CF	0.1-E*,	0.1-d		Analog Output Configuration
	0.2-C*,	0.2-4		
	0.3-R*,	0.3-P		
	0.4-d,	0.4-R		
	0.5-F,	0.5-H		
P.bNd	0000 shown if 0.3 = P			Proportional Band
M.RSt	0000 shown if 0.3 = P			Manual Reset
Ot.S.O	Rd 1,	OUt1, Rd 2,	OUt2	Output Scale & Offset
CJ.OF	0000			Cold Junction Offset
LK.CF	RS-E*,	RS-d		Lockout Configuration
	SP-E*,	SP-d		
	L3-0*,	L3-1		
bRIt	M.brt,	L.brt,	H.brt	Display Brightness

* Factory Default Settings.

Using the Menus

To Change the Thermocouple Type:

1. Press MENU until the display shows INPt

2. Press ▶/DEV to show current thermocouple type:

3. Press ▲/MAX to select the setting from J, K, T or DJ.TC.

4. Press MENU to store the value.

5. Press RESET twice to display the current temperature.